Listing of Claims Showing Changes

1. (amended) A method for preparing high surface area, nanoscale, mesoporous manganese oxide material with controlled solid-pore architecture comprising:

removing pore fluid from a gel of manganese oxide material under conditions in which capillary forces are ~~substantially absent~~ low or extremely low to thereby form said material.

2. The method according to claim 1, wherein said material comprises a manganese oxide polymorph.

3. The method according to claim 2, wherein said manganese oxide polymorph comprises cryptomelane or birnessite.

4. (amended) The method according to claim 1, further comprising an initial step of preparing said gel of manganese oxide material ~~using~~ with $KmnO_4$ to thereby form a cryptomelane gel.

5. (amended) The method according to claim 1, further comprising an initial step of preparing said gel of manganese oxide material ~~using~~ with $NaMnO_4$ to thereby form a birnessite gel.

6. (amended) The method according to claim 1, wherein said step of removing pore fluid from a gel of manganese oxide material comprises:

exchanging pore fluid in said gel of manganese oxide material with a low surface tension non-polar liquid ~~such as hexane~~; and

evaporative drying said gel of manganese oxide material under ambient-pressure conditions thereby forming a ambigel.

7. (amended) The method according to claim 1, wherein said step of removing pore fluid from a gel of manganese oxide material comprises:

exchanging pore fluid in said gel of manganese oxide material for an organic solvent which is miscible with liquid CO_2, water, and ~~other~~ hydrocarbons;

taking said carbon dioxide to a supercritical state; and

releasing the supercritical carbon dioxide fluid from the gel to thereby form an aerogel.

8. The method according to claim 7, wherein said organic solvent is selected from the group consisting of amyl acetate and acetone.

9. The method according to claim 1, wherein said step of removing pore fluid from a gel of manganese oxide material comprises:

exchanging pore fluid in said gel of manganese oxide material for a polar organic solvent;

exchanging said polar organic solvent for a non-polar organic solvent; and

removing said non-polar organic solvent to thereby form an ambigel.

10. The method according to claim 9, wherein said polar organic solvent is acetone.

11. The method according to claim 9, wherein said non-polar solvent is hexane.

12. The method according to claim 9, wherein said non-polar solvent is cyclohexane.

13. The method according to claim 1, further comprising the step of:

doping said gel with a dopant selected from Group I, Group II, a transitional metal, and Si, or any combination thereof.

14. (amended) An ambigel of a manganese oxide material, <u>said material being</u> prepared from a cryptomelane sol of ~~said~~ manganese oxide materials.

15. (amended) An ambigel of a manganese oxide material, <u>said material being</u> prepared from a birnessite sol of ~~said~~ manganese oxide materials.

16. (amended) An aerogel of a manganese oxide material, <u>said material being</u> prepared from a cryptomelane sol of ~~said~~ manganese oxide materials.

17. (amended) An aerogel of a manganese oxide material, <u>said material being</u> prepared from a birnessite sol of ~~said~~ manganese oxide materials.

18. (amended) A high surface area, nanoscale material suitable for use as a battery electrode, comprising an ambigel ~~form~~ of a manganese oxide polymorph material.

19. (amended) A material as in claim 18,wherein said ambigel ~~form~~ of a manganese oxide polymorph material is selected from cryptomelane or birnessite.

20. (amended) A high surface area, nanoscale material suitable for use as a battery electrode, comprising an aerogel ~~form~~ of a manganese oxide polymorph material.

21.(amended) A material as in claim 20, wherein said aerogel ~~form~~ of a manganese oxide polymorph is selected from cryptomelane or birnessite.